



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Joseph A. Zupanick et al. Art Unit : 3673
Serial No. : 10/003,917 Examiner : John J. Kreck
Filed : November 1, 2001 Conf. No. : 7751
Title : METHOD AND SYSTEM FOR SURFACE PRODUCTION OF GAS FROM A
SUBTERRANEAN ZONE

MAIL STOP RCE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicants request consideration of the references listed on the attached PTO-1449 form. Under 37 C.F.R. § 1.98 (a)(2)(ii), only copies of foreign patent documents and/or non-patent literature are enclosed. Copies of any listed U.S. patents or U.S. patent application publications can be provided upon request.

This filing is being made with the filing of a Request for Continued Examination. No fee is required.

Respectfully submitted,

Date: July 25, 2007

Sean M. Dean
Sean M. Dean, Ph.D., J.D.
Reg. No. 46,656

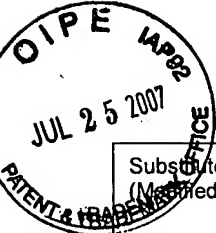
Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

21695007.doc

CERTIFICATE OF MAILING BY EXPRESS MAIL

Express Mail Label No. EV828216542US

July 24, 2007
Date of Deposit



| | | | |
|--|--|--|-------------------------------|
| Substitute Form PTO-1449 (Modified) | U.S. Department of Commerce Patent and Trademark Office | Attorney's Docket No. 17601-019001 | Application No. 10/003,917 |
| Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b)) | | Applicant Joseph A. Zupanick et al. | |
| | | Filing Date November 1, 2001 | Group Art Unit 3673 |

U.S. Patent Documents

| Examiner Initial | Desig. ID | Document Number | Publication Date | Patentee | Class | Subclass | Filing Date If Appropriate |
|---------------------|--------------|--------------------|---------------------|----------|-------|----------|-------------------------------|
| | A1 | | | | | | |
| | A2 | | | | | | |
| | A3 | | | | | | |

Foreign Patent Documents or Published Foreign Patent Applications

| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation | |
|---------------------|--------------|--------------------|---------------------|-----------------------------|-------|----------|-------------|----|
| | | | | | | | Yes | No |
| | B1 | | | | | | | |
| | B2 | | | | | | | |
| | B3 | | | | | | | |

Other Documents (include Author, Title, Date, and Place of Publication)

| Examiner Initial | Desig. ID | Document |
|---------------------|--------------|--|
| | C1 | Dreiling et al., "Horizontal and High Angle Air Drilling in the San Juan Basin, New Mexico," The Brief, published by Amoco and Chevron by Murphy Publishing, Inc., Vol. 2, Issue 6, No. 54, June 1996 (9 pages) |
| | C2 | Notification of Transmittal of the International Preliminary Report on Patentability (1 page) and International Preliminary Report on Patentability (10 pages) for International Application No. PCT/US2006/021057 mailed July 9, 2007 |
| | C3 | William P. Diamond and David C. Oyler, "Effects of Stimulation Treatments on Coalbeds and Surrounding Strata: Evidence From Underground Observations," RI 9083, Bureau of Mines Report of Investigations, 1987 (53 pages) |
| | C4 | W.P. Diamond and D.C. Oyler, "Recent Underground Observations of Intercepted Hydraulic Stimulations in Coalbed Methane Drainage Wells," Preprint number 85-332, Society of Mining Engineers of AIME, SME-AIME Fall Meeting, October 16-18, 1985 (12 pages) |
| | C5 | William P. Diamond, "Underground Observations of Mined-Through Stimulation Treatments of Coalbeds," Methane From Coal Seams Technology, June 1987 (11 pages) |
| | C6 | W.P. Diamond, "Characterization of Fracture Geometry and Roof Penetrations Associated with Stimulation Treatments in Coalbeds," 1987 Coalbed Methane Symposium, November 16-19, 1987 (11 pages) |
| | C7 | C.M. McCulloch, Maurice Deul and P.W. Jeran, "Cleat in Bituminous Coalbeds," RI 7910, Bureau of Mines Report of Investigations, 1974 (28 pages) |
| | C8 | B.E. Law, "The Relationship Between Coal Rank and Cleat Spacing: Implications for the Prediction of Permeability in Coal," Proceedings of the 1993 International Coalbed Methane Symposium, May 17-21, 1993 (7 pages) |

| | |
|--|-----------------|
| Examiner Signature | Date Considered |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |

| | | | |
|--|--|--|-------------------------------|
| Substitute Form PTO-1449 (Modified) | U.S. Department of Commerce Patent and Trademark Office | Attorney's Docket No. 17601-019001 | Application No. 10/003,917 |
| Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b)) | | Applicant Joseph A. Zupanick et al. | |
| | | Filing Date November 1, 2001 | Group Art Unit 3673 |

| Other Documents (include Author, Title, Date, and Place of Publication) | | |
|---|-----------|---|
| Examiner Initial | Desig. ID | Document |
| | C9 | C.T. Montgomery and R.E. Steanson, "Proppant Selection: The Key to Successful Fracture Stimulation," JOURNAL OF PETROLEUM TECHNOLOGY, December 1985 (10 pages) |
| | C10 | R.W. Veatch, Jr., "Overview of Current Hydraulic Fracturing Design and Treatment Technology - Part 2," JOURNAL OF PETROLEUM TECHNOLOGY, May 1983 (12 pages) |
| | C11 | David D. Cramer, "The Unique Aspects of Fracturing Western U.S. Coalbeds," JOURNAL OF PETROLEUM TECHNOLOGY, October 1992 (8 pages) |
| | C12 | S.A. Holditch, J.W. Ely, R.H. Carter, and M.E. Semmelbeck, "Coal Seam Stimulation Manual, Gas Research Institute, Contract No. 5087-214-1469, April 1990 (265 pages) |
| | C13 | Jack E. Nolde, "Coalbed Methane in Virginia," Virginia Minerals, Virginia Division of Mineral Resources, Vol. 41, February 1995 (7 pages) |
| | C14 | C.H. Elder and Maurice Deul, "Degasification of the Mary Lee Coalbed Near Oak Grove, Jefferson County, Ala., by Vertical Borehole in Advance of Mining," RI 7968, U.S. Bureau of Mines, 1974 (23 pages) |
| | C15 | Maureen Lorenzetti, "Policymakers eye frac regulation to protect groundwater," OIL & GAS JOURNAL, September 10, 2001, page 40 (1 page) |
| | C16 | Peter F. Steidl, "Foam Stimulation To Enhance Production From Degasification Wells in the Pittsburgh Coalbed," RI 8286, Bureau of Mines Report of Investigations, 1978 (11 pages) |
| | C17 | David G. Hill, "Contribution of Unconventional Gas to U.S. Supply Continues to Grow," Gas Research Institute Gas TIPS, Fall 2001 (6 pages) |
| | C18 | Vello A. Kuuskraa and Charles F. Brandenburg, "Coalbed Methane Sparks a New Energy Industry," OIL & GAS JOURNAL, Week of October 9, 1989 (8 pages) |
| | C19 | Walter B. Ayers Jr. and Bruce S. Kelso, "Knowledge of Methane Potential for Coalbed Resources Grows, But Needs More Study," OIL & GAS JOURNAL, October 23, 1989 (6 pages) |
| | C20 | John E. McElhiney, Robert A. Koenig and Richard A. Schraufnagel, "Evaluation of Coalbed-Methane Reserves Involves Different Techniques," OIL & GAS JOURNAL, Week of October 9, 1989 (8 pages) |
| | C21 | Steven W. Lambert, Stanley L. Graves and Arfon H. Jones, "Warrior Basin Drilling, Stimulation Covered," OIL & GAS JOURNAL, Week of October 9, 1989 (7 pages) |
| | C22 | Steven W. Lambert and Stanley L. Graves, "Production Strategy Developed," OIL & GAS JOURNAL, Week of October 9, 1989 (4 pages) |
| | C23 | Terry L. Logan, "Western Basins Dictate Varied Operations, OIL & GAS JOURNAL, Week of October 9, 1989 (7 pages) |
| | C24 | Vello A. Kuuskraa, Charles M. Boyer II, and Richard A. McBane, "Steps to Assess Resource Economics Covered," OIL & GAS JOURNAL, Week of October 9, 1989 (6 pages) |
| | C25 | Richard A. Counts, "Ownership Questions Can Stymie Development of Coalbed Methane," OIL & GAS JOURNAL, Week of October 9, 1989 (6 pages) |
| | C26 | Richard A. Schraufnagel, Richard A. McBane and Vello A. Kuuskraa, "Coalbed Methane Development Faces Technology Gaps," OIL & GAS JOURNAL, Week of October 9, 1989 (7 pages) |

| | |
|--|-----------------|
| Examiner Signature | Date Considered |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |

| | | | |
|--|--|--|-------------------------------|
| Substitute Form PTO-1449 (Modified) | U.S. Department of Commerce Patent and Trademark Office | Attorney's Docket No. 17601-019001 | Application No. 10/003,917 |
| Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b)) | | Applicant Joseph A. Zupanick et al. | |
| | | Filing Date November 1, 2001 | Group Art Unit 3673 |

Other Documents (include Author, Title, Date, and Place of Publication)

| Examiner Initial | Desig. ID | Document |
|------------------|-----------|---|
| | C27 | "US Coalbed Methane Resource Estimates, Issues Aired," Oil & Gas Journal, September 24, 2001 (2 pages) |
| | C28 | Dr. Charles R. Nelson, "Coalbed Methane Potential of the U.S. Rocky Mountain Region," Gas TIPS, Fall 2000 (9 pages) |
| | C29 | Dr. Charles R. Nelson, "Changing Perceptions Regarding the Size and Production Potential of Coalbed Methane Resources," Gas TIPS, Summer 1999 (9 pages) |
| | C30 | Ala. Coalbed Methane Production Hits Record, Coal Age, May 1998 (1 page) |
| | C31 | Charles M. Boyer II, "Introduction," Gas Research Institute, Methane From Coal Seams Technology, August 1993 (4 pages) |
| | C32 | P.F. Steidl, "Evaluation of Induced Fractures Intercepted by Mining," Proceedings of the 1993 International Coalbed Methane Symposium, May 17-21, 1993 (12 pages) |
| | C33 | W.P. Diamond, W.R. Bodden III, M.D. Zuber and R.A. Schraufnagel, "Measuring the Extent of Coalbed Gas Drainage After 10 Years of Production at the Oak Grove Pattern, Alabama," Proceedings of the 1989 Coalbed Methane Symposium, April 17-20, 1989 (10 pages) |
| | C34 | W.M. Merritts, W.N. Poundstone and B.A. Light, "Removing Methane (Degasification) From the Pittsburgh Coalbed in Northern West Virginia," Bureau of Mines RI 5977, 1962 (46 pages) |
| | C35 | M.L. Skow, Ann G. Kim and Maurice Deul, "Creating a Safer Environment in U.S. Coal Mines," U.S. Bureau of Mines Impact Report, 1980 (56 pages) |
| | C36 | Stephen W. Lambert, Michael A. Trevits, and Peter F. Steidl, "Vertical Borehole Design and Completion Practices Used to Remove Methane Gas From Mineable Coalbeds," U.S. Dept. of Energy, 1980 (173 pages) |
| | C37 | M.A. Trevits, S.W. Lambert, P.F. Steidl and C.H. Elder, "Methane Drainage Through Small-Diameter Vertical Boreholes," Chapter 9 in U.S. Bureau of Mines Bulletin B687 entitled Methane Control Research: Summary of Results, 1964-80, 1988 (25 pages) |
| | C38 | C.M. Boyer II and S.R. Reeves, "A Strategy for Coalbed Methane Production Development Part III: Production Operations," Proceedings of the 1989 Coalbed Methane Symposium, April 17-20, 1989 (5 pages) |
| | C39 | R.A. Mills and J.W. Stevenson, "History of Methane Drainage at Jim Walter Resources, Inc.," Proceedings of the 1991 Coalbed Methane Symposium, May 13-16, 1991 (9 pages) |
| | C40 | Richard A. Schraufnagel, "Coalbed Methane Production," Chapter 15 of Hydrocarbons from Coal, American Association of Petroleum Geologists, 1993 (21 pages) |
| | C41 | Curtis H. Elder, "Effects of Hydraulic Stimulation on Coalbeds and Associated Strata," Bureau of Mines RI 8260, 1977 (25 pages) |
| | C42 | A Guide to Coalbed Methane Reservoir Engineering, published by Gas Research Institute, GRI-94/0397, pages 2.11-2.12, 1996 (3 pages) |
| | C43 | Well Performance Manual, Schlumberger, pages 3-1 and 3-2, August 1993 (4 pages) |
| | C44 | Michael Zuber, "Coalbed Methane Engineering Methods," The Society of Petroleum Engineers, October 2006 (161 pages) |

| | |
|--------------------|-----------------|
| Examiner Signature | Date Considered |
|--------------------|-----------------|

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

| | | | |
|--|--|--|-------------------------------|
| Substitute Form PTO-1449 (Modified) | U.S. Department of Commerce Patent and Trademark Office | Attorney's Docket No. 17601-019001 | Application No. 10/003,917 |
| Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b)) | | Applicant Joseph A. Zupanick et al. | |
| | | Filing Date November 1, 2001 | Group Art Unit 3673 |

Other Documents (include Author, Title, Date, and Place of Publication)

| Examiner Initial | Desig. ID | Document |
|------------------|-----------|---|
| | C45 | James V. Mahoney, P.B. Stubbs, F.C. Schwerer III and F.X. Dobscha, "Effects of a No-Proppant Foam Stimulation Treatment on a Coal-Seam Degasification Borehole," Journal of Petroleum Technology, November 1981 (9 pages) |
| | C46 | S.J. Jeu, T.L. Logan and R.A. McBane, "Exploitation of Deeply Buried Coalbed Methane Using Different Hydraulic Fracturing Techniques in the Piceance Basin, Colorado and San Juan Basin New Mexico," Society of Petroleum Engineers, SPE 18253, copyright 1988 (11 pages) |
| | C47 | Stephen E. Laubach, Carol M. Tremain and Walter B. Ayers, Jr., "Coal Fracture Studies: Guides for Coalbed Methane Exploration and Development," Journal of Coal Quality, Volume 10, No. 3, July-September 1991 (8 pages) |

| | |
|--|-----------------|
| Examiner Signature | Date Considered |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |